Whitehorse Power Centres Project

BUILDING A RELIABLE AND ROBUST ELECTRICITY SYSTEM

A strong electricity system is the backbone of Yukon Energy's plan for a resilient and renewable energy future. That future depends on having an adequate and dependable supply of local power to meet growing winter demand as well as a robust and flexible grid to withstand challenges like droughts and emergencies.

The Whitehorse Power Centres Project is designed to meet these challenges. It will supply electricity during the coldest, darkest days of the year and provide the grid stability needed to safely connect more community-based solar and wind energy in the future.

The project

Yukon Energy will build two new thermal (diesel or LNG) power centres and one new substation in the Whitehorse area to meet electricity needs until 2040. The project will also include upgrades to the electricity system needed to connect the new power centres to the Yukon grid, and modernize our grid with new automated technologies in the future.

These upgrades will also help to reduce the likelihood of power outages in the Whitehorse area and help to restore them more quickly when they do happen.

A site for a potential third thermal power centre, to be used if we need it, will also be assessed by the Yukon Environmental and Socio-economic Assessment Board (YESAB).

The project is currently undergoing a *Yukon Environmental and Socio-economic Act* (YESAA) Executive Committee Screening, which began in July 2025. We've recommended building the project in three phases.

Phase 1

South power centre build

Construct south power centre with 15 MW of capacity.

EXPECTED IN-SERVICE DATE
Winter 2027

Phase 2

North power centre build

Construct north power centre with 30 MW of thermal generation.

Construct substation and transmission infrastructure.

Add extra capacity to the south power centre when it's needed (up to an additional 15 MW) to meet load growth in the Whitehorse area while the north power centre is being built.

EXPECTED IN-SERVICE DATE
Winter 2030

Phase 3

Expand power centres

Add extra capacity to the north power centre when it's needed and/or construct a second north power centre if expansion of existing north power centre is not feasible or demand for power is expected to exceed capacity limits at the north site.

EXPECTED IN-SERVICE DATE
Winter 2035

Potential project locations

Yukon Energy has identified one potential substation site and several possible locations for the power centres. The proposed locations are close to Whitehorse, as around 75% of the electricity used on the Yukon grid is in this region. We will select one site in the south and two sites in the north by fall 2025. The proposed locations improve reliability as well as share key features: they are close to major highways, are on or near previously developed land, and sit at least 200 metres away from waterbodies.

When narrowing down the locations, Yukon Energy will consider many things, including how it connects to the power system, distance to neighbours, how much it costs, the environment, wildlife, noise and air emissions, heritage areas and public input.

North power centre options

1. KM 232 North Klondike Highway
2. Ta'an Kwäch'än Council (TKC) Deep Creek*
3. Haeckel Hill Gravel Pit
4. Kwanlin Dün First Nation (KDFN) Kulan*
5. Waste Management Facility

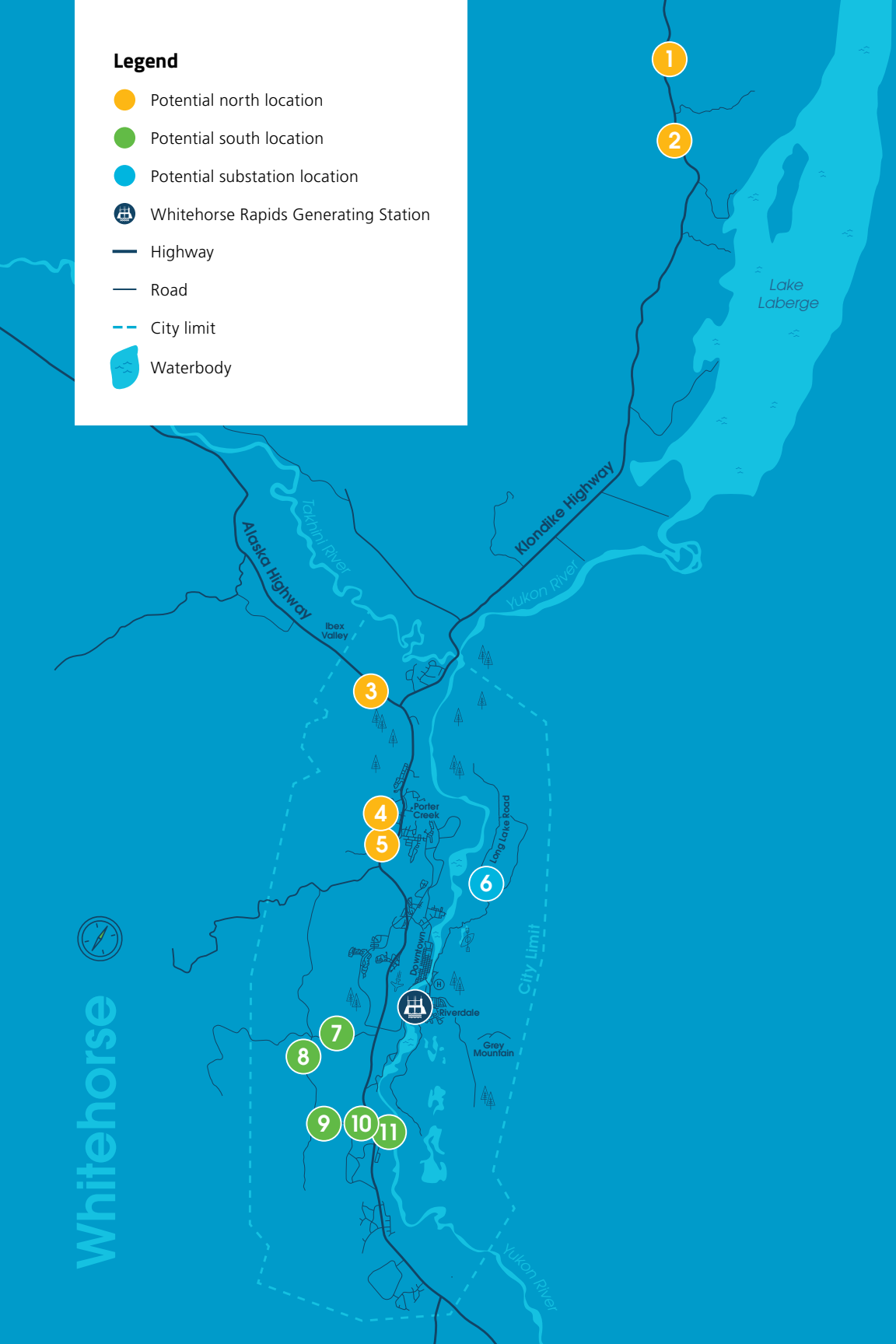
Substation site / location

6. Long Lake Road Substation

South power centre options

7. McLean Lake Road
8. Copper Haul Road
9. Whitehorse Copper Mine
10. KDFN Sima Industrial Area*
11. KDFN Lorne Road*

*on Settlement Land


Legend
Potential north location
Potential south location
Potential substation location
Whitehorse Rapids Generating Station
Highway
Road
City limit
Waterbody
1
2
3
4
5
6
7
8
9
10
11
Lake Laberge
Klondike Highway
Alaska Highway
Takhini River
Yukon River
Ibex Valley
Porter Creek
Long Lake Road
Downtown
Riverdale
Grey Mountain
City Limit
Whitehorse

provide your feedback

Share your feedback about the project, including the potential project locations.

By email

yec.wpc@stantec.com

Open houses

When:
Thursday
August 14, 2025
6 pm

Where:
Online, RSVP at yukonenergy.ca/wpc

When:
Tuesday
August 26, 2025
6 pm

Where:
Sternwheeler Hotel, Whitehorse

Learn more at **yukonenergy.ca/wpc**.

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